A LOW I/O BANDWIDTH METHOD AND SYSTEM FOR IMPLEMENTING DETECTION AND IDENTIFICATION OF SCRAMBLING CODES

ABSTRACT OF THE DISCLOSURE

A system for detecting and identifying the identity of a base station or cell which transmits a scrambling code is provided. According to one aspect of the system, the system is used to perform scrambling code detection of eight (8) primary cells (each scrambling code being spaced sixteen (16) chips apart) in a group. According to another aspect of the system, a single scrambling code generator is used to generate a master scrambling code. The master scrambling code is then used to create individual scrambling codes which are used in correlation with received signals to detect in parallel which one of the eight (8) possible primary cells in the group transmitted the received signals. According to yet another aspect of the system, each of the correlators maintains a corresponding segment of the master scrambling code. For every sixteen (16) chips, a new segment of the master scrambling code is introduced into one of the correlators, a segment of the master scrambling code is dropped from another correlator, and segments of the master scrambling code are sequentially shifted or propagated through the remaining correlators; and concurrent correlations are performed by the correlators using their respective corresponding segments of the master scrambling code and newly received signals.